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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,945	02/28/2002	Shawn R. Gettemy	035451-0174 (3720.Palm)	4360
26371	7590	12/10/2004	EXAMINER	
<b>FOLEY &amp; LARDNER</b> 777 EAST WISCONSIN AVENUE SUITE 3800 MILWAUKEE, WI 53202-5308				LEFLORE, LAUREL E
		ART UNIT		PAPER NUMBER
				2673

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/085,945	GETTEMY ET AL.	
	Examiner Laurel E LeFlore	Art Unit 2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 18 October 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-25 and 28 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-25 and 28 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 28 February 2002 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 13 and 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Lebby et al. 6,115,618 in view of Failla 5,128,662.

3. In regard to claim 1, Lebby discloses a display system for a handheld computing device. See column 1, lines 56-58, disclosing, "It is also a purpose of the present invention to provide for a portable electronic device with a removable or detachable display." The display system comprises a processing unit having a first communication port and a visual display unit separable from the processing unit. See column 2, lines 47-49, and figure 2, "illustrating the attachment of a display and battery combination 12 positioned on portable electronic device 10." Further see figure 4, depicting a controller 52 within portable electronic device 10. This controller is understood to be a processor. Thus, the processing unit is portable electronic device 10 and the visual display unit is display 24 of display and battery combination 12. See figure 1 and column 3, lines 2-3, disclosing, "there is provided a wireless communication port 29". Note in figure 1 that wireless communication port 29 is provided on the processing unit, portable electronic device 10.

The visual display unit includes a visual display and a second communication port, the first communication port providing communication with the second communication port. See column 3, lines 35-37, disclosing, "display 24 may include a wireless connection so as to be in communication interface with portable electronic device 10."

Lebby further discloses that the first communication port provides communication with the second communication port when the visual display is separated from the processing unit. See column 3, lines 32-42, disclosing, "It should be understood that display 24 in this particular embodiment is formed so as to be detachable from battery source 26 for use separate and apart from portable electronic device 10. As previously stated, display 24 may include a wireless connection so as to be in communication interface with portable electronic device 10. In this particular embodiment, display 24 is in wireless communication with portable electronic device 10 by way of infra red connection port 29 (as illustrated in FIG. 1), thus signals between display 24 and portable electronic device 10 are wirelessly communicated to display 24. "

Lebby does not disclose that the display system can be expanded from an initial or storage state to present a larger visual display size.

Failla discloses a display system that can be expanded from an initial or storage state to present a larger visual display size. See column 1, lines 10-22, disclosing, "Specifically, it relates to display screens which are formed of a number of segments which may be when in use so arranged as to provide a substantial area for visual information display, yet which may be when not in use rearranged in compact relation

for storage and travel. In this way, for example, a display screen can be provided which has a usable display area considerably greater than that which the length and width of the portable device itself would ordinarily provide, yet which when said segments are collapsed into compact relation can be stored for traveling within a volume consistent with the dimensions of such device."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the invention of Lebby with the invention of Failla by having the display of Lebby expand from an initial or storage state to present a larger visual display size, as in the invention of Failla. One would have been motivated to make such a change based on the teaching of Failla that such a "display screen can be provided which has a usable display area considerably greater than that which the length and width of the portable device itself would ordinarily provide".

4. In regard to claim 2, see rejection of claim 1.
5. In regard to claim 3, see rejection of claim 1. Folding the display is a retracting mechanism.
6. In regard to claim 4, Lebby discloses a support apparatus to anchor and support the visual display unit while it is in use. See rejection of claim 1. Note in figures 2 and 3 that portable electronic device 10 is a support and anchor for display 24. Also, display 24 can be used while anchored to electronic device 10. See column 3, lines 61-65, disclosing, "During operation, a user of portable electronic device 10 having positioned on a rear surface of first major portion 14 [note in figure 2 that element 14 is on the

portable electronic device 10] display and battery combination 12, is able to control a contained virtual image display".

7. In regard to claim 5, Lebby discloses that the first communication port is housed in a first connection housing attached to the processing unit that mates with the second communication port housed in a second connection housing attached to the visual display unit. See rejection of claims 1. The first communication port, wireless communication port 29 of the processing unit, is housed within the connection housing that is portable electronic device 10. This connection housing is attached to the visual display unit (see figure 2 and 3 and claim 4 rejection). The second connection housing is the display battery combination 12, which houses the second communication port, the wireless connection of display 24. The two wireless communication connections are in communication with each other, and are thus mated with each other.

8. In regard to claim 6, see rejections of claims 4 and 5.

9. In regard to claim 13, Lebby discloses that the first and second communication ports include wireless transceivers. See rejection of claim 1, disclosing that the communication connections are wireless. Further see figure 4, depicting the transceiver 50 of portable electronic device 10. The second transceiver is inherent.

10. In regard to claim 28, see rejection of claim 1.

11. Claims 1, 7, 10-12, 16-20 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oliwa et al. 4,856,088 in view of Lebby et al. 6,115,618 further in view of Failla 5,128,662.

12. In regard to claims 1 and 16, Oliwa discloses a handheld computing device and a visual display unit detachable from the handheld computing device. See column 2, lines 14-17, disclosing "a portable type radio transceiver 10 having...a removable display module 12". The device comprises a processor and an information storage system. See figure 2, depicting display controller 42 and memory 48. Display controller 42 is understood to be a processor, as it processes information from all the other components of the transceiver, and memory 48 is an information storage system. A radio transceiver is understood to be a computing device as it sends and receives information and includes processing capability and a memory.

Oliwa further discloses a first communications port attached to the handheld computing device and that the visual display unit includes a visual display and a second communication port. See column 2, lines 34-38, disclosing, "On the rear of the display module 12 are electrical contacts corresponding to the contacts 22, 24, 26, 28 of the transceiver 10 through which electrical signals may be passed". These two sets of electrical contacts are understood to be the first and second communication ports, as they are used for communication between the display and transceiver.

Oliwa does not disclose that the second communication port coupled to the visual display communicates with the first communication port when the visual display unit is detached from the handheld computing device".

Lebby discloses an invention in which display communication port provides communication with a communication port of a handheld computing device when the visual display is separated from the handheld computing device. See column 3, lines

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32-42, disclosing, "It should be understood that display 24 in this particular embodiment is formed so as to be detachable from battery source 26 for use separate and apart from portable electronic device 10. As previously stated, display 24 may include a wireless connection so as to be in communication interface with portable electronic device 10. In this particular embodiment, display 24 is in wireless communication with portable electronic device 10 by way of infra red connection port 29 (as illustrated in FIG. 1), thus signals between display 24 and portable electronic device 10 are wirelessly communicated to display 24. "

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oliwa by having the display communication port communicate with a communication port of the handheld computing device when the visual display is separated from the handheld computing device, as in the invention of Lebby. One would have been motivated to make such a change based on the teaching of Lebby that such an arrangement allows the display to be used "separate and apart" from the handheld computing device.

Oliwa in view of Lebby does not disclose that the visual display unit can be expanded from a compact state.

Failla discloses a display system that can be expanded from an initial or storage state to present a larger visual display size. See column 1, lines 10-22, disclosing, "Specifically, it relates to display screens which are formed of a number of segments which may be when in use so arranged as to provide a substantial area for visual information display, yet which may be when not in use rearranged in compact relation

for storage and travel. In this way, for example, a display screen can be provided which has a usable display area considerably greater than that which the length and width of the portable device itself would ordinarily provide, yet which when said segments are collapsed into compact relation can be stored for traveling within a volume consistent with the dimensions of such device."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the invention of Oliwa in view of Lebby with the invention of Failla by having the display of Oliwa in view of Lebby expand from an initial or storage state to present a larger visual display size, as in the invention of Failla. One would have been motivated to make such a change based on the teaching of Failla that such a "display screen can be provided which has a usable display area considerably greater than that which the length and width of the portable device itself would ordinarily provide".

13. In regard to claim 7, Oliwa discloses that visual display unit displays data uploaded from the processing unit while the visual display unit is separated from the processing unit. See column 2, lines 63-66, disclosing, "The display module comprises a display 32 and a memory 50 which stores a message or other data to be displayed when the display module 12 is removed from the radio 10." Further see column 3, lines 51-52, disclosing radio display data coupled from memory 48 into memory 50 and lines 58-59, disclosing, "the updated contents of memory 48 are copied into memory 50".

14. In regard to claim 10, Oliwa discloses that the visual display unit includes a power source to power the visual display unit to display data while the visual display unit

is separated from the processing unit. See column 3, lines 2-5, disclosing, "A low capacity rechargeable power source 54 is provided within the display module 12 for providing power to the circuitry and display of the module when the module is disconnected from the radio."

15. In regard to claim 11, Oliwa discloses that the visual display unit includes memory and a microprocessor to store and retrieve data uploaded from the processing unit. See figure 2, depicting control circuitry 52 and memory 50 within display 12. Control circuitry 52 is understood to be a processor as it (see column 2, line 67 to column 3, line 1) "controls the display in a conventional manner and also provides a coupling to the control buttons 34, 36, 38 in a conventional manner." It is understood to be a microprocessor, since it is sized for a portable device. Further see column 3, lines 46-48, disclosing, "the display may be used to display messages or radio display data stored within the memory 50" and lines 58-59, disclosing, "the updated contents of memory 48 are copied into memory 50". Thus, the visual display memory 50 stores and retrieves data uploaded from the processing unit. Also note in figure 2 that the control circuitry 52 is linked to memory 50.

16. In regard to claim 17, Oliwa discloses that the visual display unit includes random access memory and a second processor. See figure 2, depicting control circuitry 52 and memory 50 within display 12. See column 3, lines 46-48, disclosing, "the display may be used to display messages or radio display data stored within the memory 50" and lines 58-59, disclosing, "the updated contents of memory 48 are copied into memory 50". Thus, memory 50 is random access memory, as information can be

copied into and retrieved from memory 50. Control circuitry 52 is understood to be a processor as it (see column 2, line 67 to column 3, line 1) "controls the display in a conventional manner and also provides a coupling to the control buttons 34, 36, 38 in a conventional manner."

17. In regard to claim 18, Oliwa discloses that the second processor can access information stored on the random access memory for display on the visual display. See column 3, lines 46-52, disclosing, "the display may be used to display messages or radio display data stored within the memory 50 in the display module. External controls 34, 36, 38 allow...the display of radio data...since the radio display data has been couple...into memory 50." Note in figure 2 that control circuitry 52 (the second processor) is the link between external controls 34, 36, 38 and memory 50. Thus, the external controls allow the display of the memory contents when the second processor accesses this information.

18. In regard to claims 12 and 19, Oliwa discloses that the visual display unit includes a navigation apparatus to instruct the processing unit to access information in the random access memory for display on the visual display. See rejection of claim 18. External controls 34, 36, 38 are a navigation apparatus. Note in figure 1 that external controls 34, 36, 38 are buttons.

19. In regard to claim 20, Oliwa discloses that information is displayed on the visual display while the display unit is detached from the handheld computing device. See column 2, lines 63-65, disclosing, "The display module 12 comprises a display 32 and a

memory 50 which stores a message or other data to be displayed when the display module 12 is removed from the radio 10."

20. In regard to claim 22, see rejection of claim 10.

21. In regard to claim 23, see rejection of claim 16.

22. In regard to claim 24, Oliwa discloses that the handheld computing device includes a storage means for the visual display unit in the compact state. See rejection of claim 16, disclosing a compact state. Further see column 1, lines 14-17, disclosing "a portable type radio transceiver 10 having an enclosure 11 for containing...a removable display module 12". This enclosure 11 is a storage means for the visual display unit, removable display module 12.

23. In regard to claim 25, Oliwa discloses that the handheld computing device includes a mechanism to anchor and support the visual display unit in the expanded state. See rejection of claim 16, disclosing an expanded state. Further see rejection of claim 24. Radio transceiver 10 has enclosure 11, within which the visual display is anchored and supported. Further see column 2, lines 22-26, disclosing "in the enclosure 11...one or more contacts 22, 24, 26 are mounted. Behind one or more of these contacts are magnets which will be used to secure the display module to the enclosure 11".

24. Claims 8, 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oliwa et al. 4,856,088 in view of Lebby et al. 6,115,618 further in view of Failla 5,128,662 as applied to claims 1 and 16 above, and further in view of "A Comparison of Display Technologies for E-Books" by Dr. J. William Doane.

25. In regard to claims 8 and 9, Oliwa in view of Lebby further in view of Failla discloses an invention similar to that which is disclosed in claims 8 and 9. See rejection of claim 1 for similarities. Oliwa in view of Lebby further in view of Failla does not disclose that the visual display unit includes a bi-stable visual display or is implemented using e-paper technology.

In the article “A Comparison of Display Technologies for E-Books”, Doane discloses on page 4 that bistable displays are “particularly attractive for the e-book because the display holds the image in memory without any applied power while the reader is viewing the page. Power is applied only when the e-book is paged or updated to display a new image.” Doane further teaches, “This is a tremendous energy saving and a dramatic improvement on the operating time of a battery.” Also note on page 1 that Doane’s article focuses on displays for e-books, or “electronic display media that begin to match the essential qualities of paper.” This is understood to be e-paper.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oliwa in view of Lebby further in view of Failla by having the visual display be a bi-stable visual display, implemented using e-paper technology, as suggested by Doane. One would have been motivated to make such a change based on the teaching of Doane that such a display causes “a tremendous energy saving and a dramatic improvement on the operating time of a battery.”

26. In regard to claim 21, see rejection of claims 8 and 9. Note that Doane discloses, “Power is applied only when the e-book is paged or updated to display a new

image", and "the display holds the image in memory without any applied power". Thus, the bi-stable display can display uploaded information without power requirements.

27. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oliwa et al. 4,856,088 in view of Lebby et al. 6,115,618 further in view of Failla 5,128,662 as applied to claim 1 above, and further in view of Morrison et al. 2002/0154382 A1.

28. In regard to claims 14 and 15, Oliwa in view of Lebby further in view of Failla discloses an invention similar to that which is disclosed in claims 14 and 15. Oliwa in view of Lebby further in view of Failla does not disclose that the visual display is at least partially transparent and includes a transparent shutter layer.

Morrison discloses an invention in which a visual display is transparent with a transparent shutter layer. See paragraphs [0029], [0034] and [0035], disclosing a nanoparticle or nanoparticle-containing layer. Further see paragraph [0037], disclosing, "the nanoparticles appear transparent to the eye" and further teaching, "Because one of the states of the nanoparticles is transparent, such a display of the present invention functioning as a light valve or shutter could be used in conjunction with any known type of electro-optic medium to increase the number of display states which can be obtained from each pixel of the electro-optic medium."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oliwa in view of Lebby further in view of Failla by having the visual display be at least partially transparent, including a transparent shutter layer, as in the invention of Morrison. One would have been

motivated to make such a change based on the teaching of Morrison that such a display "could be used in conjunction with any known type of electro-optic medium to increase the number of display states which can be obtained from each pixel of the electro-optic medium."

***Response to Amendment***

29. The affidavit filed on 18 October 2004 under 37 CFR 1.131 is sufficient to overcome the Branson 2003/0071832 reference.

***Terminal Disclaimer***

30. The terminal disclaimer filed on 18 October 2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 10/085,924 has been reviewed and is accepted. The terminal disclaimer has been recorded.

***Response to Arguments***

31. Applicant's arguments, see pages 6-7 of applicant's remarks, filed 18 October 2004, with respect to the 35 USC 103 rejection(s) of claim(s) 1, 16 and 28 under Branson 2003/0071832 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

32. Applicant's arguments, see pages 7-8 of applicant's remarks, filed 18 October 2004, with respect to the double patenting rejection(s) of claim(s) under copending application 10/085,924 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*ZET*  
LEL  
29 November 2004

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